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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,489	03/07/2004	YUAN-HSUN CHANG	12447-US-PA	2488
31561	7590	12/29/2005	EXAMINER	
JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE 7 FLOOR-1, NO. 100 ROOSEVELT ROAD, SECTION 2 TAIPEI, 100 TAIWAN			HAN, YOUNGHUIE JESSICA	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/708,489	Applicant(s) CHANG ET AL.	
	Examiner Y. J. Han	Art Unit 2838	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 7 and 8 are objected to because of the following informalities:

In claims 7 and 8, it is unclear what is meant by the clause "bias is defined for the second transistor operating in a sub-threshold region." Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Ooishi (5,689,460).

Ooishi discloses a voltage regulator apparatus, comprising: a voltage regulator having a output terminal (5) to provide an output voltage regulated according to a reference voltage (V_{ref}); a first transistor (N3) having a first terminal coupled to a positive terminal of a voltage source (node 1), a second terminal coupled to a first bias (V_{cnn}), and a third terminal (node 6) coupled to the output terminal (5) of the voltage regulator; and a second transistor (P3) having a first terminal (node 6) coupled to the third terminal of the first transistor, a second terminal coupled to a second bias (V_{cpp}), and a third terminal coupled to a negative terminal (V_{ss}) of the voltage source. See figure 11. Note that N3 is an NMOS transistor and P3 is a PMOS transistor. Moreover, given the best understanding of claims 7 and 8, both the first bias and the second bias

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inherently are defined for the transistors operating in a sub-threshold region.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ooishi (5,689,460) in view of the acknowledged prior art.

Ooishi discloses the invention substantially as claimed but does not disclose an error amplifier connected the structure recited in claim 1. The acknowledged prior art clearly teaches that the use of error amplifier is well known in the art. Figure 2 discloses explicitly an error amplifier having a positive input terminal, a negative input terminal, and an output terminal, wherein the negative input terminal is for receiving the reference voltage; a third transistor having a first terminal coupled to the positive terminal of the voltage source, a second terminal coupled to the output terminal of the error amplifier, and a third terminal outputting the regulated output voltage; and a load circuit used to divide the regulated output voltage, and provide a feedback voltage to the positive terminal of the error amplifier; wherein the load circuit comprises: a first resistor having a first terminal to receive the regulated output voltage, and a second terminal to output the feedback voltage to the positive terminal of the error amplifier; and a second resistor having a first terminal coupled to the second terminal of the first resistor, and a second terminal coupled to the negative terminal of the voltage source. Therefore, it would have

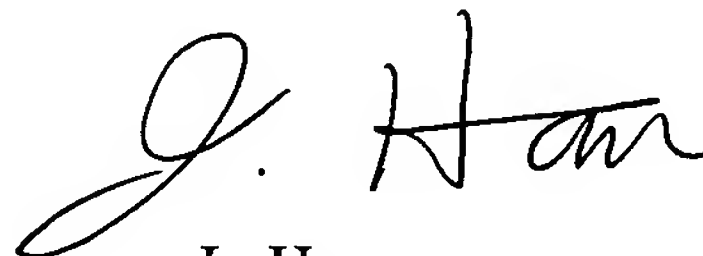
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been obvious to one having ordinary skill in the art to employ the error amplifier of the acknowledged prior art in Ooishi to obtain the claimed invention for the purpose of providing stable output voltage.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Y. J. Han whose telephone number is 571-272-2078. The examiner can normally be reached on Mon-Fri 6:30am-3:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Karl Easthom can be reached on 571-272-1989. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'J. Han', is positioned above the printed name and title.

J. Han
Primary Examiner
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